

In re Application of:  
Paul F. Worley  
Application No.: 10/518,941  
Filed: November 21, 2005  
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PATENT  
Attorney Docket No. JHU1880-1

## REMARKS

Claims 1-71 are pending in the application with claims 1-34 under active consideration, claims 35-71 having been withdrawn as drawn to non-elected subject matter. By the present communication, claim 1 has been amended. In view of these amendments, claim 2 has been canceled without prejudice or disclaimer. Subsequent to the entry of the present amendment, claims 1 and 3-34 will remain under active consideration. These amendments add no new matter as the claim language is fully supported by the specification and original claims.

### **I. Objections to the Specification**

The Examiner's objection to the title of the invention as allegedly not descriptive is respectfully traversed. While Applicants disagree with the basis for this objection, in efforts to reduce the issues and expedite prosecution, the title is amended herein to mirror the language of claim 1.

The Examiner's objection to the abstract as allegedly not consisting of a single paragraph on a separate page is respectfully traversed. It is respectfully submitted that this objection is improper. Applicants respectfully direct the Examiner's attention to the MPEP at §608.01(b), ¶ 6.16.01 and "Examiner Note" number 3 that follows:

#### Abstract of the Disclosure: Placement

The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

#### Examiner Note

3. This form paragraph should not be used during the national stage prosecution of international applications ("371 applications") if an abstract was published with the international application under PCT Article 21.

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The present application is a US National Stage filing under 35 USC § 371 of International Application No. PCT/US03/19499. An abstract of the invention, in the form of a single paragraph, was published with the aforementioned international application. Thus, Applicants have met the requirements for an abstract of the disclosure. Accordingly, reconsideration and withdrawal are respectfully requested.

The Examiner's objection to Figures 18 and 19 as lacking sequence identifiers is noted. In the Replacement Sheets attached hereto, Figures 18 and 19 have been amended to include SEQ ID NOs: 6 and 7, respectively. Support for these amendments may be found at, for example, paragraphs 71 and 72 of the disclosure.

## **II. Rejections under 35 U.S.C. §112, Second Paragraph**

The rejection of claims 1-34 under 35 U.S.C. § 112, 2nd paragraph as allegedly being indefinite is respectfully traversed. Specifically, the Examiner asserts that claim 1 is allegedly incomplete for omitting essential steps. Without acquiescing to the reasoning offered by the Examiner and to expedite prosecution, this claim has been amended herein to incorporate the requirements of claim 2. Thus, as presently amended, claim 1 recites an increase or decrease in binding of Homer protein to the Homer ligand as indicative of the presence of a modulating agent for a Homer signaling pathway. Withdrawal of this rejection is respectfully requested.

## **III. Rejections under 35 U.S.C. §103(a)**

The rejection of claims 1-34 under 35 U.S.C. §103 as allegedly obvious over Xiao *et al.* (*Current Opinion in Neurobiology* 10:370-4, 2000) in view of Heitman *et al.* (*Mol Cell Biology* 13(8):5010-9, 1993) is respectfully traversed.

The Examiner asserts that Xiao teaches "a role for Homer complexes in signal transduction, synaptogenesis and receptor trafficking" and "a method to study Homer complexes by immunoprecipitation," but does *not* teach "a role of a peptidylproline cis-trans isomerase (PPIase) in Homer complexes" (Office Action, page 4).

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The Examiner further asserts that Heitman teaches “FK506, a PPIase inhibitor inhibits amino acid import into cell[s] including proline (abstract)” and concludes that one would have been motivated to use a PPIase inhibitor in the alleged assay of Xiao because “Heitman teaches a PPIase inhibitor that inhibits proline import.” To the extent that the Examiner is relying on this teaching, Applicants respectfully point out that Heitman teaches that “FK506 inhibits transport of tryptophan, histidine, and leucine into yeast cells” (abstract); inhibition of proline transport is not mentioned. Finally, the Examiner asserts that the skilled artisan would have a reasonable expectation of success because “the presence of a PPIase inhibitor will ensure the binding specificity between Homer proteins and their ligands” (Office Action, page 4).

It is respectfully submitted that the Examiner has not met his burden of establishing a prima facie case of obviousness because, contrary to the Examiner’s assertion, there is no motivation to combine the references nor is there a reasonable expectation of success.

The Examiner acknowledges that Xiao does not teach a role of PPIases in Homer complexes. Heitman does not cure this deficiency of Xiao because there is no mention of the involvement of PPIases in the binding of Homer to its ligand. Indeed, there is no mention of Homer at all. Prior to the work of the present inventors, the involvement of PPIases in Homer signaling was not known. Therefore the inclusion of a PPIase inhibitor in an assay to identify agents that modulate a Homer signaling pathway would not have been appreciated by the skilled artisan. Thus, there would have been no motivation to combine the references to obtain an effect (i.e., improved specificity of binding between Homer and its ligand), which was not known at the time. Therefore, Heitman cannot cure the deficiencies of Xiao and the Examiner has not established a prima facie case of obviousness. Accordingly, reconsideration and withdrawal are respectfully requested.

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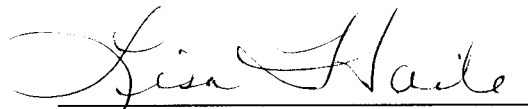
### Conclusion

In view of the amendments and above remarks, it is submitted that the claims are in condition for allowance, and a notice to that effect is respectfully requested. The Examiner is invited to contact Applicant's undersigned representative if there are any questions relating to this application.

The Commissioner is hereby authorized to charge the amount of \$510.00 as payment for a Three-Month Extension of Time fee to Deposit Account No. 07-1896. No other fee is deemed necessary with the filing of this paper. However if any fees are due, the Commissioner is hereby authorized to charge any fees, or make any credits, to Deposit Account No. 07-1896 referencing the above-identified attorney docket number.

Respectfully submitted,

Date: August 28, 2007



Lisa A. Haile, J.D., Ph.D.  
Registration No. 38,347  
Telephone: (858) 677-1456  
Facsimile: (858) 677-1465

DLA PIPER US LLP  
4365 Executive Drive, Suite 1100  
San Diego, California 92121-2133  
**USPTO Customer No. 28213**

Attachments: Drawing Replacement Sheets